

VERIDIAN HOMES



2018 ANNUAL REPORT

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Executive Summary

Veridian Homes has been a Dane County builder since 2003. Since that time, the economic cycles have provided both opportunities and challenges for the home building industry.

We have been a participant in the Green Tier I (G.T.) Program since its inception in 2005 and an original Charter Member in the Clear Waters Charter.

The corporate culture at Veridian is one of continual improvement. Established quality, safety and environmental procedures are part of our normal business activities. In light of established procedures, we continue to set annual objectives to achieve energy and sediment reduction. Our high rates of material reuse and recycling are achieved, and we maintain our relationship with the WDNR through regular participation in the Clear Waters Charter meetings.

Environmental Management System (EMS) Audit Reports

Internal

We completed an internal audit in 2018. The findings are summarized below.

The Internal Auditor found a few opportunities for improvement, with no major or minor non-conformities.

The Construction Coordinator and EMS Coordinator meet regularly to discuss EMS procedures and processes.

External

Veridian Homes completed an external audit on September 19, 2017.



The external auditor found some opportunities for improvement, with no major or minor non-conformities. The results of this audit helped us improve our overall EMS program, making it more self-sustaining.

The results of the audit indicate that Veridian's Environmental Management System is in conformance with the requirements found in 299.83 (dg) of the Environmental Results Program and that it is operationally equivalent to the ISO 14001(2004) standard. Veridian's Environmental Management System also demonstrated performance that can be classified as "superior environmental performance". Based upon these findings, Veridian's Environmental Management System has been found to continue to meet the "Functionally Equivalent" criteria and the continual improvement requirements of the Green Tier (G.T.) Program.

Description of Progress

1. At the start of our participation in G.T., we established an overall objective of building homes that demonstrate energy reduction techniques (as compared to the National Reference Home). Our continual improvement in this objective is reflected in our energy reduction throughout 2017. For the purposes of this metric, we use the Focus on New Homes testing, certification and reporting information. A summary report was provided by our Trade Partner. The data has been provided and verified by the Wisconsin Energy Conservation Corporation (WECC), independent of the Trade Partner or Veridian Homes. (Exhibit 1)
2. In 2017, we tested two new processes to help reduce erosion. The two new processes were installing 3" breaker run in the terrace as well as leaving the grade low on home sites, reducing erosion and the amount of trucking and hauling fill.
3. We completed one regulatory-driven objective in 2017. Our Trade Partner kept us informed of any changes to the FOCUS program. In 2017, WI Focus program changed the requirement for air exchange. One bath fan needed to be connected to one switch. We were efficiently able to implement this change so that no homes were kept out of the FOCUS program for not meeting this new requirement.
4. Throughout 2017, we maintained our goal of continually improving our erosion control performance. We continued the Emergency Response and Preventative Maintenance program called the 2016 Correction During Inspection Program (C@I). As in the past years, each one-inch rainfall in 2017 triggered a photo review of 2-3 neighborhoods and 30-60 lots. We continue to implement an erosion control procedure to identify trends that will help Veridian improve performance in both environmental and economic terms. Details of the C@I program are shown in Exhibit 2, below.



Exhibit 1**Performance Documentation (from Trades)****Veridian Homes****6801 South Towne Drive****Madison, WI 53713****Re: Wisconsin Focus On Energy Homes: 2018 Efficiency Analysis****Gary,**

In 2018, multiple changes and challenges were made to the program and the tools used to determine performance. Despite these changes, Veridian has continued to show improvement in efficiency of the new build homes, as verified by performance testing and REMRATE v15.7.3. Energy reductions relate to the amount of emissions from fuel required for these homes. High efficiency housing minimizes the environment impact, not only for the current year, but over the life of the house.

Approximately 472 Veridian homes were certified by Focus on Energy in 2018. Despite all the changes to the program, Veridian accomplished a REMRATE estimated total energy savings of over 356 thousand kWh and 82 thousand Therms per year.

Kurtis Anderson**Perfect Environmental Performance****529 N. Main Street****Cottage Grove, WI 53527**

Exhibit 2

Erosion Management Report CY 2018

By: Tim Anderson-GM Perfect Environmental Performance (PEP), LLC

All PEP inspections occurred within 24 hours of the end of the rain event.

Most PEP inspections occurred during the rain event, whether it was a weekday or weekend, when daylight was available and the NOAA site reported 1" had fallen so far within a 24 hour window.

The erosion control program at Veridian, initiated under the Clear Waters Initiative Charter, implemented the following change in 2018:

2018 Personal Builder Restructure for Erosion Control

Opportunity for Improvement noted in 2017:

The trend from both the 2016 and 2017 seasons was for the correction and inspection process to minimize the occurrence of situations where releases or absence of erosion control materials were present. Both non-conforming situations were greatly reduced. The absence of large releases at Veridian sites during 2017-2018 evidenced practical and effective improvements were made. This was compared to observations made during the same rain events when flooding caused large releases for other home builders, commercial buildings and roads.

Opportunity for Improvement

One issue that was more visible when the core site issues were addressed was that of getting timely communication to the erosion control trade so correction of damaged sites or gaps could be made quickly. In general, the large Soxx is so heavy that a machine is typically needed to move it. The CWI/WDNR indicated the small "repair" style Soxx could not be used because of its limitations in sloped settings and other perceived short-comings. Absent of the ability to use small soxx sections to prevent or correct small spots where flows were likely to occur, the problem of small spots being attended to quickly and effectively began to spring up again. Veridian decided to implement a revised management strategy to see if it would address the issue and provided a new internal management option for erosion control.

OBJECTIVE- Rather than each PB (Personal Builder) being responsible to review lots and receive feedback from external inspections (PEP), two PB's were assigned specifically to the erosion issue. Their responsibilities included inspection and marking spots and communicating with the entity that would install preventive or corrective measures.

This management method was intended to shorten the communication lines and have a better responsibility track within Veridian. In addition, the two assigned PB's received on site instruction from the external inspector to better understand expectations in both prevention and correction. Inspections by PEP continued with every 1-inch rain in addition to the PB continual reviews for the 2018 season.



RESULTS- The 2018 spring-fall included some of the heavier rain events since the CWI program began. While smaller releases (broom and shovel) clean-ups were more often needed because small soxx sections could not be inserted, the speed at which preventive and corrective measures were taken significantly increased. Although there were many sloped sites there were few large releases noted and no blow-outs were observed by PEP. The few larger releases were resulted from:

1. Upslope water that washed down onto disturbed building areas where a silt fence/Soxx weepers had been moved.
2. Sloped back-yard lots in succession where water moved downslope without diversion or Soxx separation lot-to-lot.

Overall 2018 prevention and correction efforts were successful and improved results for the fifth consecutive year.

2018 CWI Statistics & Summary

Rain Events	Lots	Photos	Issues	Releases	Failures
15*	1084	2446	311	112	79

**The season was preceded by an "all neighborhoods-all active lots" inspection by PEP on April 3 and 8. Those numbers have been included in the values shown above. The pre-season issues were not noted as "releases or failures" since they did not occur during a rainfall event. Correction recommendations from them are not included in the values above. Three or more neighborhoods were inspected during each rain event.*

Failure Analysis (by severity of potential or resulting release)

1. Properly placed Soxx blow-out (GR-BP) How? Usually at sloped large areas with weepers and fence already installed. Seldom occurred.
2. Roof gutters installed without drain tubes installed. Why? Scheduling differences. Commonly occurred.
3. Soxx damaged by construction trade partners-landscapers finishing grade and not replacing/reinstalling Soxx was the most prevalent issue. Commonly occurred.
4. Soxx not present (not installed thoroughly or moved away by trades)-seldom occurred.
5. Soxx out of place (moved and not placed back)-seldom-usually the deck building and driveway flatwork for trades.

PERFORMANCE IMPROVEMENT

Based upon the improvement in communication in 2018 Veridian (a decision supported by PEP) has decided to change the external inspections to an "on call" basis. In this scenario Veridian will call upon PEP to do an inspection if they feel circumstances require one. This also means that there is unlikely to be a 2019 report created by PEP.

Conclusion

As in previous years, the number of neighborhoods inspected, the number of lots inspected and the frequency of the inspection far surpassed the minimum requirements of the CWI Charter. From PEP's perspective we have

observed that our customer (Veridian) continues to support and improve the higher level (superior environmental performance) of erosion protection while continually improving its performance achievements. Please let me now if you have comments or questions about this report.

Thank You,

Tim Anderson

2018 Objectives and Targets Updates

- *Protect city sidewalk sections in front of driveways before construction begins.* Tested 1-2 homes in 2018 and will continue to do more testing in 2019.
- *Continue to test leaving home sites low so we can use basement spoils to fill the lots versus hauling off site. Hauling off site creates extra costs, erosion in streets and consumes energy. This is a practice applied in our Land Development process.*
- *Continue to test installation of stone in terrace between city sidewalk and curb.* At this time, it is not cost-effective. If things change in the future, we will bring this idea back.
- *Work with The Bruce Company on setting standards on when to use erosion netting in high slope areas.* Completed in 2018, and will continue to use as a core foundation.
- *Test new bath fan that was developed to prevent back drafting air from the exterior.* Tested in 2018. Completed.
- *Air infiltration at bottom plates to deck connection.* Tested one home in 2018. We are going to continue testing in 2019.

Additional Testing from 2018

Tested AeroBarrier product on four houses in 2018. (AeroBarrier is Greenguard certified – no harmful or toxic chemicals. AeroBarrier application is sprayed into the area, attaches and seals holes.)

2019 Potential Objectives and Targets

More readily available soxx inventory in all neighborhoods.

Working with PEP and the Focus on New Homes Program to help change code, allowing a second internal damper to control the volume of airflow pulled into the house through the make-up air damper when the furnace is operating.

At land development increase erosion matting behind and in front of the stone weepers.

Stakeholder Involvement

Veridian Homes includes specific environmental requirements in the Trade agreements of every Partner, of which we have more than 200. The feedback we have received indicates that the environmental practices we require are routinely implemented by our Trades as “best practices” when working for other companies.

During the harsh Wisconsin winters, we strive to maintain a sufficient number of homes being built to continue employing our Trade Partners. In this effort, we maintain the high quality of our builds through low Trade turn-over.

Veridian also works individually with neighbors and regulators to prevent or resolve potential issues in our neighborhoods.

DNR Relationship

Our communication with our single points of contact, including Dane County, City of Madison, City of Sun Prairie, and other communities and NGO's has been consistent since 2008 through the Clear Waters Charter meetings. Most of the innovation, collaboration and performance improvement in erosion control has been enhanced through our participation with Clear Waters. For more information about the activities of this group, please review the minutes posted by WDNR of each meeting.

Conclusion

We care about our environment, our neighborhoods and our Customers. Regardless of the challenges, we continue to succeed in both environmental improvements as well as business advances. We continue to build increasingly energy-efficient homes and continually test new technology that benefits homeowners and the environment. We improved our methods to reduce sediment release and maintain erosion minimization goals. We developed the expertise to build and deliver homes at a higher level of Energy Star standards.

We care deeply about our communities. This is demonstrated by our efforts to maintain clean neighborhoods by applying our best practices, our clean-up events and erosion control efforts.



2018 Annual Spring Clean Up